

**A REVISION OF THE GENUS MAESA FORSK. (MYRSINACEAE) IN
NEW GUINEA, THE MOLUCCAS, AND THE SOLOMON ISLANDS**

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Dedicated to Prof. Dr. F. Markgraf, Zürich, at his 90th anniversary on February 1, 1987.

SUMMARY

A taxonomic revision of the genus *Maesa* Forsk. in New Guinea and the adjacent areas (mainly Moluccas and Solomon Islands), comprising 26 species, of which 9 are new to science. A key to the species, full descriptions of all taxa, and an enumeration of the collections studied are given.

INTRODUCTION

In Mez' monograph of the Myrsinaceae (1902) 9 species of *Maesa* are mentioned from New Guinea; several more have been added by K. Schumann (1905), by Mez himself (1922, 1924), by Kanehira & Hatusima (1943), and by Van Royen (1982). After 1945 about 400 collections of *Maesa* have been made in New Guinea and in the adjacent areas, which invite an up to date revision of the genus in that part of the world. The wide distribution of some of its species has become apparent by this revision for the first time. *Maesa* grows mainly from the lowland to the montane forest, and is rare in true (sub)alpine areas; many of its species are common locally, but they never become dominant. The fact, that they are also found in secondary vegetation, certainly has contributed to the high number of collections known by now.

The author has studied the species of *Maesa* known from Australia and the Western Pacific, as far as it seemed necessary to understand the relations with the New Guinean ones, and as far as the material present in the Rijksherbarium allowed.

The Myrsinaceae, formerly richly represented in the Berlin Herbarium by the work of Mez, have been destroyed there completely in 1943; the New Guinean specimens which normally should be found at Utrecht (Gjellerup, Pulle) are missing there, probably having been sent to Mez on loan including duplicates, and not returned. This is, of course, a severe handicap for a new taxonomic revision of *Maesa* in New Guinea. Fortunately a number of types and type fragments (from B) are still preserved in the herbarium of C. Lauterbach at Wroclav (formerly Breslau). These have been sent on loan and studied as well as selected specimens from A, BM, BO, K, and P. Collections cited are deposited in the Rijksherbarium (L) unless stated otherwise.

The author has had the opportunity to collect *Maesa* in 1961/62 in New Guinea on the hills around Hollandia (now Jayapura), in the Cyclops Range, and in the Vogelkop Peninsula (Arfak Mts).

EVALUATION OF CHARACTERS

For the practical discrimination of species in the genus *Maesa* the vegetative characters seem to be more important than the floral ones. This is also due to the fact that herbarium specimens in this genus often are poor as to flowers and fruits, meanwhile the characters of the branchlets and leaves can be used even in sterile specimens. Differences at the species level are expressed in the form, size and texture of the leaves, and in indument types, mostly simple hairs and small appressed scales, these more apparent in young parts, and often evanescent in older ones.

Floral characters are important as to the kind of inflorescences (simple racemes versus composed ones, not always easy to judge), the form and size of the prophylls, of the calyx lobes, and the corolla; the length of the pedicels varies from anthesis to fructification. In his monograph, Mez has repeatedly used the form and size of the prophylls as key characters; these seem to be rather constant for each species, but are difficult to handle since they are in general too small. Prophylls were considered to be strictly opposite in the whole genus until now, but among the new species are two (*M. corneri*, *M. lineolata*) in which the prophylls are slightly though well visibly distant from each other.

The number of the calyx and corolla lobes (as well as the number of anthers), 4 or 5, seems to be constant enough to be used as a character of the first order in the key.

Maesa is a dioecious genus, and it can be expected that part of the herbarium specimens bear male flowers. But it seems that collectors have mostly taken specimens with fruits, i.e. female ones, in the flower of which the anthers are reduced in size. In the usual investigation with help of a weak lens it is difficult to be certain, if the anthers are reduced and void of pollen. Generally anthers, ovary and stigma are not mentioned in the descriptions.

In the past, numerous species have been described incompletely by their authors, and even in Mez' monograph. In certain cases, when the original material is completely lost, it has been impossible to recognize a species with certainty within the abundant material now available. Also it has not been possible to name all collections known at the moment from the Moluccas, New Guinea, and the Solomon Islands. A list of these unnamed collections is given at the end of the paper; there might be several not yet described species among these collections, the material of which seems to be insufficient at the moment for an adequate description.

KEY TO THE SPECIES

- 1 a. Flowers regularly 4-merous 2
 b. Flowers all (or for the greater part in the same specimen) 5-merous 13

- 2 a. Leaves softly tomentulose beneath. *Java, Celebes, Moluccas, New Guinea*
 1. *M. tetrandra*
 b. Leaves glabrous (epilose) beneath or essentially so 3
 3 a. Leaves 1–3 by 0.5–1.7 cm 4
 b. Leaves longer than 3 cm at least in part in the same specimen 5
 4 a. Branchlets smooth, patently hairy. Racemes very short, 2- or 3-flowered, rarely reduced to a single flower per axil in the same specimen. *New Guinea (Arfak Mts)* 2. *M. fruticosa*
 b. Branchlets densely verrucose, glabrous. Racemes usually 6–8(–12)-flowered, rarely reduced to 2–4 flowers per axil in the same specimen. *New Guinea (W. Highlands Dist.: Yobobos grassland)* 3. *M. hooglandii*
 5 a. Inflorescence all over rusty-lepidote-tomentellous. *New Guinea* . 4. *M. papuana*
 b. Inflorescence laxly appressedly lepidote, or glabrous 6
 6 a. Inflorescence composed, paniced 7
 b. Inflorescence in simple racemes, these either solitary or several in a fascicle from the same axil 8
 7 a. Panicles short, 1–2.5 cm. Leaves 6–10 by 2–5 cm. *Solomon Islands (Bougainville)* 5. *M. loloruensis*
 b. Inflorescences elongate, low-branched, 5–10(–15) cm. Leaves 15–26 by 6–10 cm. *New Guinea (Vogelkop Peninsula)* 6. *M. novo-guineensis*
 8 a. Leaves narrowly lanceolate. *New Guinea (Waigeo)* 7. *M. rheophytica*
 b. Leaves ovate to elliptic, or oblong 9
 9 a. Racemes to 1 cm long, sometimes reduced to a single flower per axil. *New Guinea (Vogelkop Peninsula: Ajamaru)* 8. *M. calcarea*
 b. Racemes at least 2.5 cm long 10
 10 a. Leaves narrowly and elongately acuminate at apex, their gland-lines numerous, undulate, elongate, very distinct beneath. *New Guinea* . 9. *M. serpentino-picta*
 b. Leaves rather shortly acuminate, or obtuse at apex, their gland-lines, if visible, short 11
 11 a. Inflorescences presumably elepidote. *S. New Guinea* 10. *M. lorentziana*
 b. Inflorescences more or less densely appressedly lepidote (as are the youngest leaves) 12
 12 a. Leaves firmly chartaceous to subcoriaceous. *New Guinea* . 11. *M. bismarckiana*
 b. Leaves membranaceous. *Timor or Moluccas* 12. *M. leucocarpa*
 13 a. Leaves pubescent to toment(ul)ose at least along midrib and lateral nerves beneath 14
 b. Leaves glabrous or practically so 16
 14 a. Flowers 1 or 2 (rarely 3) per axillary fascicle, (sub)sessile. *New Guinea (Vogelkop Peninsula)* 13. *M. purpureo-hirsuta*
 b. Flowers in (maybe short) racemes or panicles 15
 15 a. Racemes simple, short, (3–)5–10-flowered, very rarely reduced to a solitary flower. *Moluccas (Amboina)* 14. *M. rubiginosa*
 b. Racemes usually short-branched, or panicles, many-flowered. *New Guinea, Solomon Islands (Bougainville, Malaita, Santa Cruz)* 15. *M. rufo-villosa*

- 16 a. Flowers solitary, or in fascicles, or in very abbreviate racemes (rhachis to 1.5 cm long) from usually defoliate axils, or from branches 17
 b. Flowers in simple or branched racemes, or in panicles, usually from foliate axils 19
- 17 a. Drupe depressed-globose, red, c. 4 mm diam. Prophylls strictly opposite to each other. *New Guinea (N. coast hinterland)* 16. *M. cauliflora*
 b. Drupe subglobose-ellipsoid to pyriform, larger. Prophylls distant from each other 18
- 18 a. Leaves coriaceous, yellowish when dry. Drupe orange, 8–10 by 5–7 mm when dry. *New Guinea (N. coast: Hollandia vicinity)* 17. *M. lineolata*
 b. Leaves subcoriaceous, brown when dry. Drupe brownish green, 14 by 9 cm when dry. *Solomon Islands (Bougainville)* 18. *M. corneri*
- 19 a. Flowers in (much) branched racemes, or in panicles 20
 b. Flowers in simple racemes, or at least generally so 23
- 20 a. Inflorescence exclusively minutely lepidote 21
 b. Inflorescence finely patently pubescent 22
- 21 a. Leaves elliptic, more or less obtuse at apex; petiole 2–2.5 cm. *Moluccas (Amboina, Halmaheira, Morotai)* 19. *M. robinsonii*
 b. Leaves ovate or broadly elliptic, shortly obtusely attenuate or subacuminate at apex; petiole 3–4(–5.5) cm. *Solomon Islands (San Cristobal, Rennell I. group)*
 20. *M. regia*
- 22 a. Leaves elliptic, 2–6.5 by 1.5–4.5 cm. Panicles robust, 2–6 cm. *New Guinea*
 21. *M. montis-wilhelmi*
 b. Leaves elliptic to broadly ovate or elliptic-obovate, (6–)8–14 by 4–10 cm. Panicles slender, 10–20(–30) cm. *New Guinea* 22. *M. spectabilis*
- 23 a. Leaves lanceolate, apex gradually long-acuminate. *New Guinea (Fly R. area)*
 23. *M. protracta*
 b. Leaves oblong to elliptic, or subobovate, apex rather short-acuminate, or obtuse 24
- 24 a. Rhachis robust, red brown in fruiting time in dry specimens. Leaves coriaceous, (8–)10–22(–26) by (2.5–)5–10(–14) cm; petiole (2–)2.5–6(–8, –10) cm. *Admiralty Islands (Manus I.), New Britain, New Hanover, New Ireland*
 24. *M. sayersii*
 b. Rhachis more slender, brownish in fruiting time in dry specimens. Leaves membranaceous to (sub)coriaceous, medium-sized in general; petiole shorter in general 25
- 25 a. Leaves membranaceous to thin-chartaceous, coarsely dentate-serrate. Racemes puberulent. *Sumatra, Java, Lesser Sunda Islands, Celebes?, Moluccas*
 25. *M. junghuhniana*
 b. Leaves thin-chartaceous to (sub)coriaceous, entire or shallowly repand-undulate. Racemes laxly minutely lepidote initially, early glabrescent. *Australia (Queensland), Timor, Moluccas, New Guinea, Solomon Islands (and probably in the Western Pacific)* 26. *M. haplobotrys*

1. *Maesa tetrandra* (Roxb.) A. DC.

- M. tetrandra* (Roxb.) A. DC., Prod. 8 (1844) 82; Mez, Pflanzenz. 9 (1902) 36, f. 3; Hallier f., Meded. Rijksherb. 1 (1910) 33; Backer & Bakh. f., Fl. Java 2 (1965) 195.
- Perlarius alter*, Rumphius, Herb. Amboin. 4 (1743) 122, t. 57.
- Baeobotrys tetrandra* Roxb., Hort. Bengal. (1814) 85, nom. nud.; Fl. Ind. 1 (1832) 560. — Type: 'A native of the Moluccas, cult. Hort. Bot. Calcutta.' Apparently no specimen preserved; no drawing at K, cf. Kew Bull. 11 (1956) 313.
- M. mollissima* (Blume) A. DC., Trans. Linn. Soc. 17 (1834) 134; Prod. 8 (1844) 81; Miq., Fl. Ind. Bat. 2 (1856) 1009; Scheff., Comm. (1867) 30; F. v. Mueller, Papuan Pl. 1 (1877) 93; Warb., Bot. Jahrb. 13 (1891) 398; Koord. & Val., Bijdr. 5 (1900) 228. — *Baeobotrys mollissima* Blume, Bijdr. (1826) 866. — Type: Java. 'Crescit cum *B. mollis*.' No holotype specimen at L.
- M. fulvinervis* A. DC., Ann. Sc. Nat. II, 16 (1841) 80; Prod. 8 (1844) 82. — *M. mollissima* (Blume) A. DC. var. *fulvinervis* (A. DC.) Scheff., Comm. (1867) 31. — Type: *Baeobotrys fulvinervis* Kollmann ms in G-Boiss. Java, leg. Kollmann s. n. No Kollmann specimen is at L, but that at G has been probably originally collected by Zippelius in Java, from which a specimen with the ms name of *Baeobotrys fulvinervis* Zipp. is at L.
- M. amboinensis* Scheff., Comm. (1867) 29. — Type: *Forsten s. n.*, Moluccas, Amboina, fl. monstros. (L).
- M. mollissima* (Blume) A. DC. var. *cordata* Scheff., Comm. (1867) 31. — Type: *A. Zippelius s. n.*, New Guinea, SW. part, Triton Bay, Pulu Aiduma, fl. 29 June 1828 (L).
- M. leucocarpa* auct., non Blume ex Scheff. 1867; Scheff., Obs. p. 55 = Nat. Tijd. Ned. Ind. 32 (1872) 420, as to *Teijsmann s. n.* (= *HB 7469*) from Halmaheira (L); Mez, Pflanzenz. 9 (1902) 36, as to *HB 7469 & 7637*.
- M. velutina* Kaneh. & Hatus., Bot. Mag. Tokyo 57 (1943) 228, f. 17. — Type: *R. Kanehira & S. Hatusima 13103*, New Guinea, Vogelkop Peninsula, Waren (S. of Manokwari), fl. fr. 26 March 1940 (FU, n. v.; A, iso).

Shrub or treelet, sometimes (sub)scandent, to 4 m tall. Branchlets terete, slender, tips and younger parts ferrugineous-tomentulose, older parts glabrescent, laxly to subdensely set with small roundish lenticels. Leaves oblong to elliptic, apex shortly subacutely acuminate, base broadly cuneate, sometimes almost rounded, thinly to firmly chartaceous, brown when dry, edge entire or slightly wavy, softly tomentulose all over both faces initially, glabrescent, though remaining patently hairy at least along the midrib beneath, 5–10(–15) by (2–)3–6.5 cm, midrib and lateral nerves prominent beneath only, the latter in (6–)8(–10) pairs curved-ascending, reticulation none, gland-lines short, rather obscure; petiole 0.7–1.7 cm. Racemes axillary, simple, occasionally sparingly low-branched, solitary or rarely in twos or threes, (sometimes galled and much ramified, i.e. monstrose and the flowers very small then), obliquely erect, (3–)8–12-flowered, all over soft-tomentulose; pedicels slender, (0.5–)1–2 mm at anthesis, (1.5–)2–3(–4) mm in fruit; prophylls narrowly ovate-acuminate, ciliate, c. 1 mm. Flowers 4-merous. Calyx lobes narrowly triangular-ovate, sparsely hairy, lineate dorsally, 1.2 mm. Corolla greenish white, cup-shaped, lobed to the upper third, lineate at lobes, usually subglabrous, c. 1.5 mm. Drupe subglobose, whitish, glassy, strongly brownish veined lengthwise, 2.5–3 mm diam.; seeds black.

Distribution. Central Java, S. & Central Celebes, Talaud Is., Moluccas (Amboina, Banda, Buru, Halmaheira, Ternate), Kei Is., and scattered all over New Guinea

(incl. Biak I.). Not known yet from Borneo, the Lesser Sunda Islands and the Philippines.

Ecology. In open, often secondary forest (blukar), also in native gardens re-growth, on clayey or rocky, maybe ultrabasic soil, also on coral limestone, from lowland to 1230(–1800) m.

Uses. The fruits are sweet and edible.

CELEBES. Central part: Soroako, van Balgooy 4009; Meijer 11161. – Southern part: Makasar, Peak of Bonthain, van Steenis 10404; Buton I., Elbert 2799.

TALAUD ISLANDS. Karakelang: Lam 2524. – Salibabu: Lam 3092.

MOLUCCAS. Amboina: Rant 358 (BO), 552; Robinson, Pl. Rumph. Amboin. 234, 241, 242; de Vriese & Teijsmann anno 1859/60; Zippelius s.n. – Banda: Anon. s.n. – Buru: van Balgooy 4747; Toxopeus 441. – Ceram: Kornassi (Exp. Rutten) 465, 655, 943, 1248; Kuswata & Soepadmo 241; Maskuri 933; Rutten 393, 400, 1576, 1782. – Halmahera: Anang (Exp. de Haan) 575; de Haan 1804; Teijsmann HB 7469. – Ternate: Beguin 1283.

KEI ISLANDS. Elat: Jensen 159. – Great Kei: Jensen 119. – Tual: Jensen 7.

NEW GUINEA. W. part: Vogelkop Peninsula, Aitinju, BW 7427 Versteegh; Manokwari, BW 12091 Vink & Schram; ibid., Tafelberg, BW 3833 Versteegh; Arfak Mts, Minjambau, BW 12584 Versteegh. Rouffaer R., Docters van Leeuwen 9918. Wissel Lakes, BW 8658 Vink & Schram; Eyma 5246. Biak I., Britton 46; BW 8276 Versteegh & Vink; BW 9739 Moll. – E. part: Madang Dist.: Gurumbu, NGF 20551 (racemes elongate). – W. Highlands Dist.: Lake Koperasi, NGF 41043. – E. Highlands Dist.: Chimbu valley, Sterly 75-261, 80-178, 80-212. – Milne Bay Dist.: Sudest I., Brass 28086 (racemes elongate and low-branched).

2. *Maesa fruticosa* Gibbs

M. fruticosa Gibbs, Phytogeogr. & Fl. Arfak Mts (1917) 174, fig. on p. 175; Kaneh. & Hatus., Bot. Mag. Tokyo 57 (1943) 226, f. 14. – Type: *L. S. Gibbs* 5579, W. New Guinea, Vogelkop Peninsula, Arfak Mts, Angi Gita Lake, 1840 m, fl. Dec. 1913 (BM; K, L, iso).

Small shrub. Branchlets rigid, ascending, terete, rather densely foliate, patently hairy on the youngest parts, smooth, early covered with dark red brown striate cork. Leaves ovate to ovate-oblong, apex attenuate, subacuminate-apiculate, base more or less rounded, chartaceous, glabrous, paler beneath when dry, hardly lineate beneath, entire, the edge recurved, 1.5–2 by 0.5–1 cm, midrib prominent beneath, lateral nerves 2 or 3 on either side, faint; petiole very slender, laxly set with hairs as is the lower part of the midrib beneath, 1–2 mm. Racemes axillary, 0.5–1.5 cm long, 2- or 3-flowered, rarely reduced to a single flower; peduncle or rhachis very short; pedicels slender, hairy, 4(–5) mm. Flowers 4-merous, white; prophylls broadly lanceolate, including the lower half of the ovary, ciliate, 1 mm. Calyx lobes ovate, acute, glabrous, 1 mm. Corolla 2 mm, sparsely hairy outside, lobed in the upper 1/4, lobes suborbicular, crenulate. Drupe globose-ellipsoid, 5 by 4 mm, glabrous.

Distribution. New Guinea, only known from the Angi Lakes area in the Arfak Mts (Vogelkop Peninsula).

Ecology. In forest or forest border, 1840–1900 m, apparently rare.

NEW GUINEA. W. part: Arfak Mts, Angi Gita Lake, Kanehira & Hatusima 14183 (FU, n.v.); Iray, Angi Gigi Lake, 1900 m, Kanehira & Hatusima 13776 (FU, n.v.; A).

3. *Maesa hooglandii* Sleum., *spec. nov.*

Arbuscula vel frutex ca. 1 m altus. Ramuli ascendentes, sat breves, dense foliati, novelli rubro-brunnei, apicibus tantum lepidoti, cito glabri, sulcato-striati, dense lenticellis ellipticis sat magnis valdeque elevatis verrucosi. Folia elliptica vel elliptico-oblonga, apice attenuata, obtusa, basi in petiolum cuneata, in sicco supra olivaceo-brunnea et opaca, subtus pallidiora, chartacea usque subcoriacea, epilosa, subtus laxe lepidoto-punctulata, haud lineata, integra, in sicco imprimis basin versus recurvata, 2–3 cm longa, 1–1.5(–1.7) cm lata, costa cum nervis lateralibus supra in sicco paulo impressa, subtus prominente, nervis lateralibus c. 3-paribus arcuatis, reticulatione nulla; petioli graciles, 3–7 mm longi. Racemi ex axillis foliorum pro parte iam defoliorum orti, simplices, normaliter singuli, rarius ex eadem axilla bini, 6–8(–12)-flori, raro ad flores 2–4 in eadem axilla ipsius speciminis reducti, fere ubique laxissime lepidoti; rhachis sat gracilis, glaber, 1–2 cm longa, interdum in eodem specimine valde reducta itaque flores 2 vel 3 subfasciculatos, rarius solitarios praebens; pedicelli subgraciles, 2–3 mm longi; prophylla ovata, obtusa, glabra, 1 mm longa. Flores 4-meri, cremei. Calycis lobi in fructu anguste triangulares, obtusiusculi, vix 1 mm longi. Corolla in gemma tantum visa. Drupa globosa, c. 2.5 mm diam., laxissime minuteque lepidota.

Distribution. New Guinea, twice found in the W. Highlands.

Ecology. In low shrubbery along creek in treefern-grassland, c. 2590 m altitude.

NEW GUINEA. E. part: W. Highlands Dist., Laiagam Subdist., Yobobos grassland area (source of the Lagaip R.), fr. 17 Aug. 1960, *Hoogland & Schodde 7472* (L, type; CANB, iso, n.v.); *ibid.*, *Hoogland & Schodde 7453*, fl. buds 16 Aug. 1960 (L ex CANB).

4. *Maesa papuana* Warb.

M. papuana Warb., Bot. Jahrb. 13 (1891) 400; K. Schum., Fl. Deutsch. Schutzgeb. Südsee (1900) 492; Mez, Pflanzenr. 9 (1902) 54. – Type: *O. Warburg 21377*, E. New Guinea, Morobe Dist., Sattelberg, Hopi Bumanka, fr. 9 April 1889 (B, lost).

Small shrub or tree to 4.5 m tall, or not rarely woody climber on low tree. Branchlets striate-sulcate and densely ferruginous-lepidote or squamular-tomentellous on tips, lower parts terete, gradually glabrescent and densely covered with yellowish flat-tish lenticels. Leaves elliptic to ovate- or oblong-elliptic, apex rather suddenly short-acuminate, base widely attenuate to rounded, often contracted to the petiole, edge slightly undulate and a little recurved, firmly chartaceous to subcoriaceous, brown above, much paler beneath when dry, young ones more or less densely ferruginous-lepidote-tomentellous on both faces, mature ones very early almost completely glabrescent except the midrib and petiole beneath, not properly gland-lineate beneath, 8–14(–18) by 5–8(–10) cm, midrib and 5–6(–8) pairs of rather straight lateral nerves much prominent beneath only, the discolorous irregular reticulation visible under a lens; petiole (2–)2.5–3(–5) cm. Racemes from foliate axils simple, or some-

times low- and short-branched, solitary or sometimes in twos, rather slender, all over rusty lepidote-tomentellous; rhachis 3–5(–6) cm, 10–20-flowered; pedicels rather robust, 1–1.5 mm at anthesis, a little longer in fruit; prophylls cupular, ovate, including the base of the drupe, 1 mm. Flowers 4-merous, cream. Calyx lobes elongately ovate-triangular, ciliolate, 2 mm. Corolla urceolate, 2 mm, lobed in the upper third, lobes rounded, lineate. Drupe ovoid-globose, finely ridged lengthwise, waxy and translucent, brownish orange or greenish brown at full maturity, 2.5–3 mm in the dry state.

Distribution. New Guinea, Eastern part, known from the W. Sepik Dist. to the Morobe and Northern Dist.

Ecology. From lowland hillside, often riverine, to montane (oak) forest or forest edge, 15–1220(–1370) m.

NEW GUINEA. E. part: W. Sepik Dist., Aitape, along Rheinbrum R., Darbyshire & Hoogland 8105. – E. Sepik Dist., Prince Alexander Ra., Mt Turu, Yangoru, Pullen 1435. – Madang Dist., N. slopes of Bismarck Ra., Rodatz & Klink 174 (B, lost); Schumann-Fluss (Upper Nuru R.), Lauterbach 2455 (WRSL); Kani Mts, Schlechter 17868 (K, P); Karkar I., NGF 42221. – Morobe Dist., Markham Point, NGF 13682, 16754; Sattelberg, Hellwig 554 (B, lost); Clemens 607; Herzog Ra., Wagau, NGF 17822, 19320. Above Bakaia, SE. of Garaina, Hartley 12851. – Northern Dist., Popondetta, Ioma, NGF 31712.

5. *Maesa loloruensis* Sleum., *spec. nov.*

Arbor 7–9 m altus, trunco 10 cm diam., cortice noduloso brunneo, ligno albedo vel brunnescente. Ramuli teretes, novelli graciles, obscuri, apicibus ipsis tantum appresse minuteque lepidoti, ceterum glabri, laxe lenticellati, vetustiores lenticellato-verruculosi. Folia elliptica vel oblongo-elliptica, apice late obtuse attenuata, basi in petiolum cuneata, chartacea, in sicco brunnea, subtus paullo pallidiora, glabra, elepidota, integra, in sicco vix revoluta, 6–10 cm longa, 2–5 cm lata, costa in sicco supra plana, subtus elevata, nervis lateralibus 6–8-paribus curvatis subtus tantum prominentibus, reticulatione venarum nulla, lineis elongatis discoloribus atrescentibus subdensis; petioli 1.3–2 cm longi. Paniculae (vel umbellae pedunculatae) axillares abbreviatae, graciles, 1–2.5 cm longae, 5–15-florae, primo visu glabrae, sed sub lente hic inde minute lepidotae, 0.2–1 cm longe pedunculatae; pedicelli filiformes, sub anthesi (1–)2(–3) mm longi; prophylla ovata, 0.5 mm longa. Flores 4-meri, pro genere parvi, virescentes. Calycis lobi ovati, obtusi, vix 1 mm longi. Corolla campanulata, fere ad dimidium 4-loba, lineata, c. 1.5 mm longa. Drupa non visa.

Distribution. Solomon Islands, Bougainville, twice found near Lake Loloru, S. of Buin.

Ecology. In stunted cloud forest with *Pandanus*, 1525–1830 m.

SOLOMON ISLANDS. Bougainville I., southern rim of Lake Loloru crater, 1525 m altitude, fl. 25 Aug. 1964, *Craven (& Schodde)* 322 (L, type; A, CANB, K, LAE, iso, n.v.); *ibid.*, exposed on top of hill near Lake Loloru, 1830 m altitude, fl. 8 Feb. 1967, NGF 31403 Lavarack & Ridsdale.

6. *Maesa novo-guineensis* Scheff.

M. novo-guineensis Scheff., Ann. Jard. Bot. Btzg 1 (1876) 32; Mez, Pflanzenr. 9 (1902) 43. — Type: *Teijsmann HB 7822*, New Guinea, Vogelkop Peninsula, near Andai (SW. of Manokwari), fl. fr. ex descr. (BO). Flowers and fruits are missing in the BO specimen.

M. warensis Kaneh. & Hatus., Bot. Mag. Tokyo 57 (1943) 227, f. 16. — Type: *R. Kanehira & S. Hatusima 13290*, New Guinea, Vogelkop Peninsula, Waren (60 miles S. of Manokwari), fl. 30 March 1940 (FU, holo, n.v.; A, BO, iso).

Shrub c. 2 m tall. Branchlets terete, glabrous, their lenticels small, sparse on tips, more densely set on older parts. Leaves ovate-elliptic or elliptic, apex shortly obtusely subacuminate, base cuneate, membranaceous to chartaceous, glabrous, brown and dull when dry, paler beneath, entire to slightly undulate, 15–26 by (6–)7.5–10 cm, midrib and nerves rather flat above, prominent beneath, lateral nerves 6–7(–10) pairs, curved-ascending, forked c. 1 cm before the edge, beneath laxly set with distinct darker vein-like elongate lines, and densely with very fine dark brown points (visible only with help of a lens); petiole 2–4 cm by 1.5–2 mm. Inflorescence elongate, low-branched, panicle-like, composed from several elongate many-flowered glabrous racemes; peduncle short; rhachis almost filiform, 5–10(–15) cm; pedicels slender, 2–3 mm; prophylls ovate, 0.6 mm. Flowers 4-merous. Calyx lobes ovate-rotundate, subacute, glabrous, ciliolate, gland-lineate and -punctate, 0.8 mm. Corolla campanulate-tubular, lobed in the upper 1/3, 1.5 mm, lineate, lobes ovate-rotundate. Ovary glabrous; style very short. Drupe subglobose, size not known.

Distribution. New Guinea, twice found on the coast of the Vogelkop Peninsula near Manokwari, apparently not recollected since 1940.

Ecology. In primary forest at low altitudes.

7. *Maesa rheophytica* Sleum., *spec. nov.*

Maesa sp. nov., Steen., Rheophytes (1981) 306, p.p. maiore.

Frutex ca. 80 cm altus. Ramuli glabri, teretes, striati, laxe lenticellati. Folia anguste lanceolata apice elongato-acuminata, ipso apice acuta, basi in petiolum attenuata, firme chartacea usque subcoriacea, in vivo supra saturate, subtus dilute viridia, in sicco supra glauca, subtus pallide brunnea, glabra, subtus hic inde breviter lineata, integra, 8–17.5 cm longa, (0.5–)1–1.5(–2) cm lata, costa in sicco utroque latere discolore paullo elevata, nervis lateralibus ca. 8-paribus supra obscuris, subtus prominulis, reticulatione obscura; petioli in sicco rubro-brunnei, paullo corrugati, 1–1.5 cm longi, 1 mm crassi. Racemi simplices singuli (vel rarius bini) ex axillis superioribus orti, graciles, 10–15-flori, (3–)4–6 cm longi, primo visu glabri, sed sub lente omnino imprimis in calyce minutissime lepidoti; pedicelli 1–1.5 mm longi; prophylla plus minus anguste ovato-deltaeidea, vix ciliolata, vel erosula, 1 mm longa. Flores 4-meri, ex coll. rosaceo-albidi. Calycis lobi ovati, subacuti, 1 mm longi. Corolla urceolata, in superiore 1/3 parte lobata, vix lineata, 2 mm longa. Stylus brevissimus, 2- vel 3-lobatus. Drupa matura albida, subglobosa, 2.5 mm diam.

Distribution. New Guinea, Waigeo I., once found.

Ecology. True rheophyte, along creek, c. 50 m.

NEW GUINEA. W. part: Waigeo I., E. Peninsula, path from Wekasan on E. bank of Siam R. to Kabare, along Oenja creek, fl. fr. 26 Jan. 1955, van Royen 5301 (L, type).

8. *Maesa calcarea* Sleum., *spec. nov.*

Frutex 1.5–2 m altus. Ramuli graciles, teretes, apicibus tantum minute appresse lepidoti, ceterum glabri, lenticellis pallidioribus sat planis laxè obtekti. Folia elliptico-oblonga, apice breviter acuminata, ipso apice (sub)acuta, basi cuneata, membranacea, glabra, in sicco dilute brunnea subtusque lineis discoloribus elongatis instructa, integra (sed in sicco quasi subdenticulata margineque paullo revoluta), 3–5.5 cm longa, (1–)1.2–2 cm lata, costa nervisque lateralibus 6–8-paribus subtus prominulis; petioli graciles 4–5 mm longi. Racemi axillares simplices, singuli, valde abbreviati, 3–5-flori, interdum usque ad florem unicum reducti, ubique laxè minute appresse lepidoti; rhachis gracilis, 0.5–1 cm longa; pedicelli sub fructu gracillimi, 1(–1.5) mm longi, in flore breviores; prophylla ovato-acuminata, ca. 0.5 mm longa. Flores 4-meri, lutescentes vel albidì. Calycis lobi ovati, subacuminati, 0.7 mm longi. Corolla tubulosa, in vivo purpureo-striata, breviter lobata, ca. 1.2 mm longa. Drupa ovoideo-globosa, albida, translucens, in vivo purpureo-azureo-striata, 2–2.5 mm diam.

Distribution. New Guinea, twice found in the southern part of the Vogelkop Peninsula.

Ecology. In secondary forest on clayey soil covering limestone rock, 240–275 m, locally common.

NEW GUINEA. W. part: Vogelkop Peninsula, Ajamaru, fl. fr. 8 May 1958, Versteegh BW 4979 (L, type; CANB & LAE, iso, n.v.); *ibid.*, fl. fr. 8 March 1962, Vink BW 15248 (L).

9. *Maesa serpentino-picta* Mez

M. serpentino-picta Mez, Bot. Arch. 1 (1922) 126. – Type: *C. Ledermann 12780*, New Guinea, W. Sepik Dist., Upper Sepik R., West Ra., ‘Felsspitze’ (c. 141°30'E–4°10'S), fl. (B, lost).

“Shrub, c. 1 m tall, the slender glabrous branchlets set with numerous elliptic flat red brown lenticels. Leaves elliptic, apex narrowly long-acuminate, base acute, glabrous, not properly reticulate, but the undersurface densely set with very distinct elongate undulate atrescent lines, to 13 by 4.5 cm. Racemes 1–3, known in immature state only; rhachis filiform, laxly ferruginous-lepidote; prophylls relatively large, acute, almost cup-shaped, decurrent to the pedicel, lineate. Flowers 4-merous.”

Distribution. East New Guinea, once found in the W. Sepik District, West Range.

Note. The above given description is a translation of the original, very incomplete one. Close to this description is a specimen from the northern foothills of the Star Mts, *LAE 59324*, a small tree with the tips of the branchlets and the young

(badly preserved) leaves more or less densely lepidote, the mature ones more laxly so. This character is not mentioned in the original diagnosis. The inflorescence of *LAE 59324* is but very laxly lepidote, the racemes are numerous, many-flowered, the rachis (4–5 cm) and pedicels (c. 1.5 mm) are slender, the prophylls ovate-acuminate (hardly 1 mm), the drupe ovoid-subglobose, distinctly lineate, c. 2 mm diam. Another specimen from the E. Sepik Dist., Angoram, Upper Karowari R., *Dornstreich 249*, fr., differs by broader and much less long-acuminate leaves. Both specimens show more or less elongate dark wavy lines underneath, as mentioned by Mez, but such lines occur also in other species of *Maesa*.

10. *Maesa lorentziana* Mez

M. lorentziana Mez, Bot. Arch. 6 (1924) 231. — Type: *A. Pulle 92*, SW. New Guinea, 'ad flum. Lorentzii prope Biwakeiland' = Lower Lorentz (or Noord) R., close to the Dumas R., c. 138°40'E–5°S, fl. (B, lost). No duplicates in BO, L or U.

Shrub? "Branchlets elongate, virgate, slender, completely glabrous, hardly lenticellate. Leaves broadly lanceolate, apex acuminate, base acute, chartaceous, glabrous, dull, the edge set with small, very distant teeth, midrib and lateral nerves slightly prominent, no distinct glandular lines or points visible, to 10 by 3 cm; petiole to 1.5 cm. Racemes axillary, simple, erect, lax-flowered, glabrous, to 10 cm long; pedicels to 1.5 mm. Flowers 4-merous, glabrous, hardly 2 mm. Calyx lobes ovate, apex rounded, edge minutely papillose-crenulate, not lineate. Corolla tubular, lobed to about halfway, lineate at the tube only, lobes ovate, acuminate."

Distribution. S. New Guinea, Lower Lorentz R., once found.

Ecology. In lowland forest.

Note. Description not matched yet by any collections of the genus from Southern New Guinea.

11. *Maesa bismarckiana* Mez

M. bismarckiana Mez, Bot. Arch. 1 (1922) 125; van Royen, The Alpine Flora of New Guinea 3 (1982) 1952, f. 599. — Type: *R. Schlechter 18738*, New Guinea, N. slopes of the Bismarck Ra., ascent from Ramu R., 2500 m, fl. 14 Nov. 1908 (B, lost; K, P, iso).

M. pullei Mez, Bot. Arch. 6 (1924) 231. — Type: *A. Pulle 943*, New Guinea, Orange Mts, Mt Hellwig, fl. Jan. 1913 (B, lost). No duplicates in BO, L, or U.

Much branched shrub or slender tree, (2–)3–7(–15) m tall; trunk to 20 cm diam.; bark brown or brown-gray; wood whitish or straw. Branchlets terete, slender, tips more or less densely ferruginous-lepidote, maybe also patently puberulous (as are petioles and midrib then), lower parts early glabrescent, finely or mostly roughly verruculose. Leaves ovate-elliptic or elliptic, not rarely oblong-elliptic, occasionally obovate-elliptic, apex shortly acuminate with obtuse tip, or sometimes rounded, base broadly cuneate to almost rounded, firmly chartaceous, rarely subcoriaceous, dark

green when fresh, more or less dark brown and dull when dry above, paler beneath, edge sometimes undulate, or even distantly subdenticulate, practically entire, hardly recurved, young ones densely covered with ferruginous appressed scales as is the petiole, mature ones gradually less so and only beneath, gland-lines dark, short, numerous, irregular beneath, (4.5–)5–8.5(–9.5, –14) by (1.8–)2–4(–6.5) cm, midrib and lateral nerves rather flat or sometimes a little impressed above, prominent beneath, the latter (6–)8–10 pairs, rather straight below, though curved and archingly joined towards the edge, reticulation of veins indistinct; petiole (4–)6–10 mm. Racemes axillary, mostly solitary, sometimes in twos or threes, obliquely erect, all over laxly ferruginous-lepidote and puberulous initially, glabrescent with age, laxly to more densely many-flowered, on very short peduncle; rachis stoutish in general, (3–)4–6(–10) cm; pedicels slender at anthesis and 1–1.5 mm long, more robust and 2–3 mm in fruit; prophylls ovate-acuminate, keeled, hardly 1 mm. Flowers 4-merous, white to cream or yellowish green. Calyx lobes triangular-ovate, obtuse, finely gland-erose, 1(–1.5) mm. Corolla tubular-campanulate, lobed about halfway, lineate, 2.5 mm, lobes ovate-orbicular. Drupe ovoid-subglobose, striate lengthwise, soft, pink to brownish, (2–)2.5(–3) mm diam.

Distribution. New Guinea, from the Oranje Mts and the Balim R. valley in the main range to the Milne Bay District.

Ecology. As undergrowth in primary and secondary montane and mossy, even subalpine forest, also along forest edge in boundary to tree-fern grassland, in scrub forest on ridge, along roadsides, old garden regrowth, even planted by natives for decorating purposes, usually on wet soil, along stream bank or edge of bog, locally common, (600–)1450–2800(–3300) m.

NEW GUINEA. W. part: Mt Hellwig?, von Roemer 175. Bele R., NE. of Lake Habbema, Brass 11213. Balim R. valley, Brass 11769; Wamena, Kostermans & Soegeng 638; Wellesey, Kostermans & Soegeng 732. – E. part: Sepik Dist., Hindenburg Ra., Nerenavik, NGF 32135 Frodin. – E. Highlands Dist., Sassaura, Hartley 11997. Wahgi-Jimmi divide, Manner & Street 257; NGF 18233. Akuna, Hartley 12070. Okapa road, Hartley 12934, 12950. Mt Kerigonna, LAE 54685. Asaro-Mairifutca divide, Pullen 453. Marafunga, LAE 50497, NGF 40690. Daulo-Chuave road, NGF 6355. Kundiawa-Gembogl road, LAE 53088. Kainantu, ANU 5853. Chimbu, Keglsugl, LAE 53233, NGF 23102, 23794; Pengagl creek, van Balgooy 544; Mt Wilhelm, E. slopes, Brass 30549. Mt Michael, Brass 31453; NGF 11710. Bena-Bena to Dunantina, Hoogland & Pullen 5279. – W. Highlands Dist., Mt Ambrangaba, UPNG 4986. Laiagam, Lagaip valley, Hoogland & Schodde 7429. Sugarloaf complex, Wapu R., Hoogland & Schodde 7111. Kubor Ra., Nona-Minj divide, Vink 16420. Togoba-Pabarabuk road, Robbins 142. Wabag, ANU 2056, 2799; Hoogland & Schodde 6822; Saunders 1040. Bayer R. bridge, NGF 35227. Nondugl, NGF 5347, 18554. Hagen, Upper Kaugel R., Bowers 54, 897; Karpena, Streimann 8446. – S. Highlands Dist., Mt Giluwe, LAE 60895, NGF 40032. Tari, UPNG 1603. Ialibu, NGF 37049, 40306. Mendi, NGF 32924, 39730; Schodde 1354. – Madang Dist., Aiyura, NGF 1061. Saidor, Naho-Rawa divide, Sayers 21395. – Morobe, Aseki, headwaters of Langimar R., Craven & Schodde 1316. Cromwell Mts, Mannasat, Hoogland 9452. Saruwaged Ra., Samanzing, Clemens 8925. Bululo, Gumi Creek, Streimann 8681. Bakaia, SE. of Garaina, Hartley 12640. Zatari, SE. of Boana, NGF 17547. – Central Dist., Lake Myola nr. 1, NGF 34964. Efogi, Schodde 5709. Astrolabe Ra., Birribi, Schodde 5647. Goilala, Kerau Mission, UPNG 652, 718. – Milne Bay Dist., Baniara, Kanis 1242. Mt Suckling complex, LAE 54043; Veldkamp & Stevens 5953. Mt Dayman, Maneau Ra., Brass 22382, 22423. Fergusson I., LAE 68967. – No locality given: NGF 25208.

12. *Maesa leucocarpa* Blume ex Scheff.

M. leucocarpa Blume ex Scheff., Comm. (1867) 30; Mez, Pflanzenr. 9 (1902) p.p., excl. descr. — Type: *C. Reinwardt s. n.*, Timor (or Moluccas?) (L).

Branchlets slender, terete, laxly appressedly lepidote, not hairy at all. Leaves elliptic-oblong, apex short-acuminate, tip blunt, base broadly cuneate to almost rounded, membranaceous, brown when dry, paler beneath, laxly appressedly and minutely lepidote beneath (lens!), glabrous to the naked eye (no trace of hairs!), edge obsolete-glandular-undulate-dentate, 7.5–11 by 3.5–4.5 cm, midrib and main nerves flat above, slightly raised beneath, lateral nerves irregular, rather straight, 8–10 pairs, forked before the edge, not properly inarching there, remembering those of *M. tetrandra*, reticulation of veins and glandular lines obscure; petiole slender, 1.5 cm. Racemes simple, 1 (or 2) per axil, 2.5–3 cm, all over laxly minutely lepidote (not hairy!); rhachis very slender; prophylls ovate, short-acuminate, obscurely ciliate, 1.2 mm; pedicels filiform, 2 mm at anthesis. Flowers 4-merous. Calyx lobes ovate, acute, 1 mm. Corolla campanulate, 1.5 mm, lobed halfway, lobes rounded. Drupe ovoidly subglobose, gland-lineate (and lepidote!), c. 2 mm diam.

Distribution. Timor (or Moluccas), not recollected.

Note. Doubtful, if really close to *M. tetrandra*, i.e. a glabrous form of it; Mez' description is mainly based on collections from the Moluccas which are hairy and belong to *M. tetrandra*. *Maesa 'leucocarpa'* mentioned by Scheffer (1872) from Halmaheira, also represents true *M. tetrandra*.

13. *Maesa purpureo-hirsuta* Kaneh. & Hatus.

M. purpureo-hirsuta Kaneh. & Hatus., Bot. Mag. Tokyo 57 (1943) 226, f. 15. — Type: *R. Kanehira* & *S. Hatusima 14142*, New Guinea, Vogelkop Peninsula, Momi (60 miles S. of Manokwari), fl. fr. 10 April 1940 (FU, n.v.; A, BO, iso).

Shrub, 1.5–2 m tall. Branchlets terete, densely covered with 1–1.5 mm long purplish-brown patent soft hairs as are the petioles and the undersurface of the leaves; lenticels sparse. Leaves elliptic-oblong or elliptic, in part in the same specimen obovately so, apex rather abruptly and shortly acutely acuminate, base broadly cuneate to rounded, thin-chartaceous, regularly sinuate-subspinulose-dentate (the teeth ending in a small gland), shortly tomentulose at the midrib and dark green and glossy above, paler beneath when fresh, (8–)10–15(–18) by (3–)3.5–6(–7) cm, midrib and nerves flat above, prominent beneath, lateral nerves 6–7(–8) pairs curved-ascending, ending in the teeth, dark glandular lines elongate, visible above only; petiole 0.7–1.5(–2) cm. Flowers 1–3 fascicled per axil, (sub)sessile, 4- or usually 5-merous, white; prophylls apparently much reduced, not observed. Calyx patently purplish hirsute, lobes triangular-lanceolate, 1.3 mm. Corolla broadly cylindrical, lobed in the upper third, lineate, glabrous, 1.5 mm, i.e. hardly exceeding the calyx lobes. Drupe ovoid, lineate, lengthwise, patently hirsute, c. 5 by 4 mm.

Distribution. New Guinea, twice found in the Vogelkop Peninsula.

Ecology. In undergrowth of rain forest, also *Castanopsis* forest, from lowland to c. 1000 m, apparently rare.

NEW GUINEA. Vogelkop Peninsula, Aifat R. valley, N. slope of the E. part of the Tohkiri Ra., path Sururem-Chaquai, fl. fr. 26 Oct. 1961, van Royen & Sleumer 7096.

14. *Maesa rubiginosa* Blume ex Scheff.

M. rubiginosa Blume ex Scheff., Comm. (1867) 26; Mez, Pflanzenr. 9 (1902) 38; Merr., Philip. J. Sc. 11 (1916) Bot. 301; Backer & Bakh. f., Fl. Java 2 (1965) 195. – Type: *A. Zippelius s. n.*, Amboina (L).

Shrub, 2–3 m tall, branched from the base. Branchlets terete, densely patently hirsutulous at tips, lower parts much less so, laxly set with elliptic pale lenticels; bark blackish. Leaves ovate-elliptic, slightly to markedly inequilateral, apex shortly acutely acuminate, base more or less rounded, thin-chartaceous, brown and dull when dry, the edge sinuate-dentate to -serrate except at base, in bud state patently ferrugineous-hirsutulous on both faces, at maturity glabrescent except midrib and lateral nerves on both faces, which remain laxly patently hirsutulous, (6–)8–12 by (2.5–)3–6 cm, midrib and lateral nerves slightly prominent on both faces, the latter in 6–8 moderately curved pairs, reticulation obscure as are the rather lax darker glandular lines; petiole hirsutulous, 1–1.5 cm. Racemes axillary, simple, single, erect, very slender, 3–6(–10)-flowered, 1–1.5 cm, rarely reduced to a solitary flower, all over hirsutulous, pedicels 1–1.5 mm at anthesis, 3–4 mm and nodding in fruit; prophylls ovate-acuminate, hardly 1 mm. Flowers 5- (occasionally 6)-merous, white. Calyx lobes ovate, subacute, subciliate, edge translucent, c. 1 mm. Corolla tubular, lobed to the upper third, glabrous, c. 2 mm; lobes rounded, lineate. Drupe subglobular, striate-lineate, c. 3 mm diam.

Distribution. Amboina.

Ecology. Hanging over cliffs at 40 m altitude.

Note. Reported for Central Java (Kediri: *Warburg 4233*; B, lost), but not confirmed. The Teijsmann specimen cited by Scheffer (Obs. Phyt. p. 52, Nat. Tijd. Ned. Ind. 32, 1872, 420) from N. Celebes (Minahasa: Tondano) does not belong to *M. rubiginosa*.

MOLUCCAS. Amboina: C.B. Robinson 1876.

Cultivated. Hort. Bot. Bogor., HB 7636; Hochreutiner Pl. Bogor. 61.

15. *Maesa rufo-villosa* Mez

M. rufo-villosa Mez, Pflanzenr. 9 (1902) 38; K. Schum., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 340. – Type: *C. Lauterbach 2450*, E. New Guinea, Madang Dist., Schumann R. (= Nuru R.), 300 m, fl. 3 July 1896 (B, lost; WRSL, part of holo).

M. mollissima auct., non (Blume) A. DC. 1834; K. Schum. in Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee (1900) 492, based on *Lauterbach 1204 & 2450*.

M. ruficaulis S. Moore, Trans. Linn. Soc. Bot. 9 (1916) 102. — Type: *C. B. Kloss s.n.* anno 1912, S. New Guinea, Utakwa R., Camp I, 150 m, fl. male & female (BM; K, iso).

M. echinotricha Mez, Bot. Arch. 6 (1924) 231 ex descr. — Syn types: *Pulle 540*, S. New Guinea, Orange Mts, Mt Perameles (= bivouac at foot of Mt Went, c. 138°42'E–4°25'S), 1000 m, fl. Nov. 1906 (B, lost); *A. Pulle 368*, S. New Guinea, Van der Sande R., lowland, fl. Nov. 1906 (B, lost). Both *Pulle* collections are not represented in BO, K, L, or U.

Bushy shrub, 3–5 (–10) m tall, often scandent, sometimes starting as a liana, ending in a small tree, maybe with a crooked bole; bark smooth, light brown. Branchlets terete, slender, hirsutulous by rufous-ferruginous soft patent hairs (1–1.5 mm) at younger parts, glabrescent below; lenticels flat. Leaves ovate to ovate-elliptic, often slightly to markedly inequilateral, apex short-acuminate, tip acute or bluntish, base rounded or often subcordate, chartaceous, brown when dry, paler beneath, edge sinuate-dentate (the teeth ending in small glands resp. protruding nerves), hirsutulous on both faces for a long time, glabrescent above only with age, 7–10 (–15, –17) by 4–6 (–7, –11) cm, midrib and lateral nerves flat above, prominent beneath, the latter 6–7 (–8) pairs, somewhat irregular, forked c. 1 cm before the edge, reticulation of veins and darker gland-lines obscure; petiole 1–2 cm by 1 mm. Racemes axillary, simple or not rarely low- and short-branched and pseudopaniculate maybe in the same specimen, or typical panicles, all over softly and more or less patently ferruginous-rufous-tomentulose to subsetaceous except corolla and fruit; rhachis slender, obliquely erect, usually many-flowered, (3–)5–10 (–19) cm; pedicels slender, 0.5–1 mm at anthesis, to 2 (–4) mm in fruit; prophylls usually narrowly lanceolate to linear, hardly 1 mm, often not observable. Flowers 5-merous, white or cream. Calyx lobes deltoid, subacute, lineate, ciliate, 1 mm. Corolla urceolate, lobed in the upper third, lineate, 2.5 mm, lobes rounded. Drupe depressedly subovoid-globose, strongly lineate, translucent-whitish, c. 3 mm diam., top of ovary glabrous.

Distribution. Scattered over S. and E. New Guinea, and in the Solomon Islands (Bougainville, Malaita, Santa Cruz Is.).

Ecology. In understory of rain forest, not rarely secondary forest, or in re-growth along road, from sealevel to 1000 (–1900) m, locally common.

Note. Reminds strongly *M. tetrandra* (Roxb.) A. DC. in habit, which, however, has constantly 4-merous flowers, and apparently is absent from the Solomon Islands.

NEW GUINEA. E. part: E. Sepik Dist., Maprik area, LAE 73644. — Madang Dist., Bagabag I., NGF 43409. Karkar I., NGF 33953. Konstantinhafen, Lauterbach 1204 (WRSL). Djamu R., Schlechter 17578 (P). — Morobe Dist., Finschhafen-Sattelberg area, Clemens 147, 193, 589, 5205; Rau 384; Weinland 307 (B, lost). Kasanombe near Lae, NGF 37926. Bulolo area, Kairo 51. Korepa, Kairo 35. Paiawa R., NGF 25037. Goilala area, Hartley 13036. Waria R. area, Maboro, Schlechter 19491 (K, P). — Central Dist., Tapini area, NGF 46396. Rigo, Omen R., LAE 70439. — Northern Dist., Tufi area, Hoogland 4600. — Milne Bay Dist., Maneau Ra., Mt Dayman, Brass 23676. Rossel I., Brass 28358, 28591.

SOLOMON ISLANDS. Bougainville, Kajewski 2030. — New Georgia group, Telepari I., BSIP 15899. — Malaita, BSIP 10599, 10701, 13743; RSS 242. — Small Malaita, BSIP 17308. — NE. Santa Cruz, Leusaleba area, BSIP 17134, 17756.

16. *Maesa cauliflora* Kaneh. & Hatus.

M. cauliflora Kaneh. & Hatus., Bot. Mag. Tokyo 57 (1943) 225, f. 13. – Type: *R. Kanehira* & *S. Hatusima 11781*, New Guinea, Geelvink Bay, Chaban c. 25 km inland of Nabire, 50 m, fr. 28 Feb. 1940 (FU, n.v.; A, BO, iso).

Shrub or few-branched spreading treelet, 1.5 m tall. Branchlets robust, terete, subdensely pustulate by roundish lenticels, 3–5(–8) mm diam. Leaves oblong, sometimes obovately so, not rarely slightly inequilateral, apex short-acuminate, subacute, base cuneate, or obtuse on one side, subcoriaceous, dark dull green above when fresh, brown-olivaceous and dull when dry, paler beneath, glabrous, densely and very finely tuberculate beneath (lens!), entire or somewhat undulate at edge, with more or less distinct discolorous lines beneath, (10–)13–20(–33) by (3.5–)7–10(–14) cm, midrib and nerves prominent beneath only, the latter steeply curved-ascending 5–6 (–7) pairs, forked before the margin, their base markedly decurrent along the midrib, no reticulation; petiole stout, 2–3(–4) cm by 1.5–2.5 mm. Inflorescences (sub) fasciculate from tubercles or very short axes in defoliate axils or from trunk, 2–4 (–6)-flowered, glabrous; pedicels finely verrucose, c. 2 mm at anthesis, 2–4 mm in fruit; prophylls strictly opposite, ovate-acuminate, c. 1 mm. Flowers white, 5-merous. Calyx lobes ovate-acuminate, obtuse, edge translucent, lineate, 1.5 mm. Corolla not known yet in fully developed state, lineate. Drupe depressed-globose, red, punctulate and lineate, c. 4 mm diam.

Distribution. New Guinea, coastal hinterland of the N. coast, thrice found.

Ecology. In edge of lowland rain forest, maybe along creek, 50–500 m.

NEW GUINEA. W. part: Mamberamo R., opposite Albatros bivouac, 75 m, Docters van Leeuwen 9544. – E. part: W. Sepik Dist., Vanimo hinterland, 500 m, LAE 52965 Streimann.

17. *Maesa lineolata* Sleum., *spec. nov.*

Frutex vel arbor parva, (1–)2–7 m alta, trunco 1–6(–15) cm diam. Ramuli robusti, teretes, striati, in sicco rubro-brunnei, lenticellis ellipticis bene elevatis sparse usque subdense pustulati. Folia forma et ambitu variabilia, oblongo-usque obovato-elliptica, rarius oblonga, apice late attenuata et obtusiuscula, vel rotundata, basi cuneata usque obtusa, paullo inaequilateralia, coriacea, glabra, in sicco utrinque lutescenti-olivacea, in vivo supra saturate viridia, subtus lutescenti-viridia, integra, margine in sicco paullo revoluta, glabra, subtus lineolis valde elongatis obliquis discoloribus plerumque manifeste percursa, 6–10(–14) cm longa, (2.5–)3–5(–6) cm lata (in locis rupestribus siccis minora), costa supra parum elevata vel fere plana, subtus valde prominente, nervis lateralibus 6–7(–8)-paribus modice curvatis praeter marginem excurrentibus utrinque prominulis, rete venarum obscuro; petioli in sicco rubescentes, 1–1.5(–2, –4) cm longi, 2(–3) mm crassi. Flores 3–10(–15) e tuberculis axillaribus ad fasciculos brevissime pedunculatos vel racemos reductos dispositi, 5-meri, omnino glabri albidii vel cremei; rhachis tenuis 5–15 mm longa; pedicelli sub anthesi graciles, 4–8 mm longi, sub fructu multo robustiores, 6–10(–12,

—15) mm longi; prophylla 2 ovato-lanceolata, in superiore pedicellorum parte manifeste inter sese distantia, 0.5 mm longa. Calycis lobi ovato-acuminati, obscure lineati, vix 1 mm longi. Corolla tubulosa, 1.5 mm longa, ca. dimidio lobata, lobis acutis lineatis. Drupa subgloboso-ellipsoidea, interdum piriformis, basi bene in pedicellum attenuata, apice ad lobos calycinos ovatis sicut drupa dense verticaliter glanduloso-lineata, matura aurantiaca et mollis, siccitate sat dura, 8–10 mm longa, 5–7 mm diam.; stigma capitulatum vix lobatum, lobos calycinos paullo superans; semina basalia ca. 8.

Distribution. New Guinea, only known on the N. coast around Hollandia and the Cyclops Ra.

Ecology. In edge of shrubby hill forest, also in secondary forest, in bushy grassland, or even on coastal rocks, on clayey usually lateritic (ultrabasic) soil, from sealevel to c. 200 m, locally not rare.

NEW GUINEA. W. part: Northcoast, Hollandia (Jayapura), 50–150 m, Brass 8809; BW 1185 Koster, BW 3672 Kalkman; Hiepko & Schultze-Motel 573; Kostermans & Soengeng 60, 973; Sauveur & Sinke 2515; *ibid.*, base G, 200 m, BW 4127 v.d. Sijde; *P. van Royen & H. Sleumer 6313*, fl. fr. 26 July 1961 (L, type; dupl. distributed to A, CANB, G, K, LAE, P, UC). Cape Tanahmerah, 70 m, van Royen & Sleumer 6504, 6507, 6527.

18. *Maesa corneri* Sleum., *spec. nov.*

Arbor gracilis 4–10 m alta, trunco usque ad 8 cm diam., cortice laevi vel pustulato cinereascenti-brunneo. Ramuli teretes, in sicco rubro-brunnei, apicibus laxe, in partibus vetustioribus dense rotundato-lenticellati, vel verrucosi. Folia elliptica, apice breviter subabrupte attenuata vel subacuminata, ipso apice obtusa, basi cuneata et leviter in petiolum contracta, subcoriacea, in vivo supra saturate viridia, subtus pallidiora, in sicco brunnea utrinque opaca, glabra, integra, 9–12 cm longa, 4–8 cm lata, costa nervisque supra sat planis, subtus prominentibus, nervis lateralibus 6–7-paribus curvato-ascendentibus praeter marginem plus minus excurrentibus, reticulo venarum nullo, utrinque lineis glandulosis debilibus vix discoloribus instructa; petioli robusti, 2–3.5 cm longi, 2–2.5 mm diam. Fasciculi (vel racemi valde – interdum usque ad florem unicum – reducti) breviter vel brevissime pedunculati 2–3(–4)-flori, ex axillis superioribus orti, glabri; pedicelli crassiusculi, 0.6–1.2 cm longi; prophylla ovato-acuminata, ciliolata, ca. 1 mm longa, insertione paullo sed manifeste inter sese distantia. Flores 5-meri, albescentes vel (saturate) cremei. Calycis lobi ovati, obtusi, ciliolati, paullo carinati, 1.2 mm longi. Corolla tubulosa, 2.5 mm longa, in superiore tertio lobata, lobis ovatis rotundato-obtusatis. Drupa ellipsoideo-pyriformis, basi in pedicellum angustata, stylo stigmatateque brevissime lobato superata, matura in vivo pallide viridis vel viridescenti-brunnescens, nitida, 2 cm longa et 1.5 cm diam., in sicco usque ad 14 × 9 mm visa, pericarpio coriaceo 1 mm crasso, semen 1 verruculosum continens.

Distribution. Solomon Islands (Bougainville).

Ecology. In primary montane forest, occasionally in disturbed forest, 600–900 m altitude.

SOLOMON ISLANDS. Bougainville, Lower S. slopes of Lake Loloru crater, c. 16 miles N. of Buin, 790 m, fl. fr. 3 Aug. 1964, *L. Craven (& R. Schodde) 183* (L, type; dupl. distributed to A, BISH, BO, BRI, G, K, LAE, PNH, US); *ibid.*, Schodde (& Craven) 3879. Buin, Koniguru, 900 m, common, fl. fr. 28 Aug. 1930, Kajewski 2152 (A). Crown Prince Mts, Kupei, 600 m, fr., NGF 13583 Corner.

19. *Maesa robinsonii* Merr.

M. robinsonii Merr., Philip. J. Sc. 11 (1916) Bot. 300. – Type: *C. B. Robinson, Rel. Robinson. 1880*, Moluccas, Amboina, Hitu Messen, fl. 1 Nov. 1913 (PH, lost; BO, L, iso).

Scandent shrub. Branchlets sparsely minutely lepidote at tips, older parts terete, dark brown, glabrous, subdensely set with paler elliptic rather flat lenticels. Leaves elliptic, apex short-acuminate and obtuse, or partly rounded in the same specimen, base slightly inequilateral, mostly broadly cuneate, subcoriaceous, glabrous, dark red-brown and somewhat shining above, paler and dull beneath when dry, markedly dark-lineate on both faces, entire, edge subrevolute, (6–)7–11 by 3.5–5(–8) cm, midrib and lateral nerves prominent beneath only, the latter c. 5 pairs curved-ascending, excurrent along the edge, reticulation of veins obscure; petiole rather robust, 2–2.5 cm. Panicles axillary, solitary, pyramidal, 5–9 cm long in all, branched from below, the branches rather few, spreading, the lower ones to 4 cm, laxly and finally tubercled-lepidote – not puberulous! – on the rhachis. Flowers numerous, sessile, 5-merous, pink; prophylls triangular-ovate, acute, 0.5 mm. Calyx lobes ovate, acute, not punctate or lineate, c. 0.7 mm. Corolla short-tubular, lobed in the upper third or less, lobes oblong-elliptic, obtuse or rounded, not punctate or lineate. Immature drupe subglobose-ovoid, sessile, c. 2 mm diam.

Distribution. Moluccas (Amboina, Halmaheira, Morotai).

Ecology. In forest at 200–1000 m altitude.

MOLUCCAS. Amboina, Robinson 1881; G. Wapahuhu, 600 m, Ramlanto 438. – Halmaheira, Weda, Nucifera, de Haan 1736 (differing by fruit-pedicele 1–1.5 mm long). – Morotai, Mt Pare, 1000 m, Kostermans 1240.

20. *Maesa regia* Sleum., *spec. nov.*

Liana lignosa arborescens, vel arbor parva. Ramuli graciles, teretes, glabri, brunnei, lenticellis parvis ellipticis pallidis subdense instructi. Folia ovata vel late elliptica, apice breviter obtuse attenuata vel subacuminata, basi late in petiolum cuneato-contracta, paullo inaequilateralia, in sicco chartacea vel tenuiter subcoriacea, olivaceo-brunnea, margine subundulata, utrinque initio per totam faciem imprimis ad costam et nervos passim minute appresse lepidota, maturitatem versus glabrescentia, epilosa, 12–18 cm longa, 7–10(–12) cm lata, costa et nervis in sicco rubro-brunneis discoloribus supra paullo, subtus magis prominentibus, nervis lateralibus 5–6(–7)-paribus modice curvatis, ante marginem furcatis, superioribus tantum conjunctis, lineis glandulosis interdum valde distinctis, saepius obscurioribus, rete venarum utrinque levissime (sub lente!) elevato; petioli 3–4(–5.5) cm longi, 1.5–2 mm crassi. Panicu-

lae axillares graciles, laxae, multiflorae, ubique laxe vel subdense minute lepidotae, (4–)6–12 cm longae, ramis inferioribus usque ad 5 cm longis; bractee ovato-acuminatae, 1 mm longae; pedicelli sub anthesi ca. 0.5 mm longi, vel quasi nulli, sub fructu usque ad 1.5 mm elongati; prophylla ovata, subacuminata, leviter carinata, dorso lepidota, 1 mm longa. Flores 5-meri, albido-cremei. Calycis lobi plus minus anguste ovati, erosuli, haud vel vix lineati, ca. 1 mm longi. Corolla urceolata, usque ad medium 5-loba, glabra, glanduloso-lineata, tota ca. 1.5 mm longa. Drupa ovoideo-globosa, submatura 2.5 mm diam., verticaliter striata.

Distribution. SE. Solomon Islands, only known from NE. San Cristobal and Rennell Islands.

Ecology. In primary rain forest, maybe along riverside, on well drained ground, 30–120 m.

Note. Of the species of *Maesa* from the W. Pacific Islands only *M. nemoralis* (Forst.) A. DC. (New Hebrides: Tanna) and *M. grandis* Gillespie (Fiji) bear scales (no hairs!) on the inflorescences as does *M. regia*, but *M. nemoralis* has distinctly lineate calyx lobes, *M. grandis* much smaller flowers. The specimens cited below have been regarded before to belong to *M. tabacifolia* Mez (Fiji), a species with a dense indumentum of fine hairs on the inflorescence such as met with in *M. novo-caledonica* Mez (New Caledonia), *M. aneyteensis* Mez (New Hebrides: Aneityum), and *M. eromangensis* Mez (New Hebrides: Eromanga).

SOLOMON ISLANDS. NE. San Cristobal, c. 8 miles inland, banks of Pegato R. near confluence with Warahito, 60–120 m, fl. buds & submat. fr. 23 July 1965, R(oyal) S. S., B. C. Stone & T. C. Whitmore 6152 (L, type; K, iso). Rennell Is., W. Hatangua village, 70 m, fl. 8 May 1969, BSIP 14887 Gafui et al.; Mangauta area, 30 m, fl. buds 1 May 1969, BSIP 14736 Gafui et al. Ngongangonmala, fl. 28 April 1972, BSIP 19425 Powell et al.

21. *Maesa montis-wilhelmi* van Royen

M. montis-wilhelmi van Royen, The Alpine Flora of New Guinea 3 (1982) 1951, f. 598. — Type: L. J. Brass 30435, New Guinea, E. Highlands Dist., Mt Wilhelm, E. slopes, 2770 m, fl. 10 July 1959 (K; L, iso).

Scandent or straggling shrub, or tree, (1–)2–16(–20) m tall, lateral branchlets usually short and stiff, terete, dark brown red to blackish, striate, younger parts or tips fugaciously appressed-lepidote and persistently patently puberulous, older parts glabrescent and rather laxly set with pale elliptic lenticels. Leaves elliptic, apex very shortly subacuminate-attenuate, or apiculate, or even rounded, base broadly attenuate to rounded, subcoriaceous, very laxly fugaciously lepidote when very young, glabrous at maturity, dark green above when fresh, reddish brown and a little shining above when dry, paler beneath, entire, or remotely 1–3-denticulate, slightly revolute there in dry specimens, (2–)2.5–6.5 by (1.5–)2–3.5(–4.5) cm, midrib and lateral nerves usually impressed above, prominent beneath, the latter (5–)6–7(–8) pairs curved-ascending, forked and archingly joined before the edge, reticulation of veins more or less deeply grooved above, rather obscure beneath, as are the darker glandular lines there; petiole slender to stoutish, puberulous (lens!), 3–8(–10) mm. Panicles

1 or 2 per axil, the uppermost seemingly terminal, peduncled for 4–6 mm, finely patently and persistently puberulous in all parts, 2–6 cm; rhachis stiff; bracts and prophylls ovate, subacute, c. 1.2 mm; pedicels robust, 0.5–1 (rarely –2) mm. Flowers 5-merous, white. Calyx lobes ovoid-suborbicular, ciliolate, c. 1.2 mm. Corolla campanulate, lobed about halfway, lobes ovate-rounded, not lineate, 1.5 mm. Drupe ovoid-globose, purple-green, 3(–3.5) mm diam.

Distribution. New Guinea, scattered in the Central Range, i.e. in the Wissel Lakes area, and again from W. and S. Highlands to the Milne Bay Dist., and also in the Finisterre and Saruwaged Range.

Ecology. In upper montane forest or forest edge, sometimes ascending to alpine shrubberies, also in secondary growth, 2070–2750(–3260) m. Presumably always a climber at lower altitudes.

NEW GUINEA. W. part: Wissel Lakes, Barara, 2130 m, Eyma 5174. – E. part: W. Highlands Dist., Hagen, Mt Oga, Pullen 119. – S. Highlands Dist., Mt Né, 2070 m, NGF 28469. – E. Highlands Dist., Mt Wilhelm area, Keglsugl to Pengagl creek, NGF 23126, 23679, 23789. Goroka, Asaro-Mairi divide, Hoogland & Pullen 5480. Mt Otto, Brass 30972. – Madang Dist., Finisterre Ra., Lake Naho, Pullen 6082. – Morobe Dist., Mt Saruwaket, Samanzing, Clemens 9500; Cromwell Mts, Hoogland 9432, 9540, 9606. – Central Dist., Wharton Ra., Murray Pass, Brass 4639; NGF 36880. – Milne Bay Dist., Mt Dayman, Maneau Peak, Brass 22269.

22. *Maesa spectabilis* Sleum., *spec. nov.*

Generaliter, ut videtur, liana arboribus usque ad 25 m altis insidens, raro extra silvam in locis apertis frutex repens usque ad 2 m altus. Ramuli teretes, laeves, vel laxe lenticellis parvis vix discoloribus obsiti, brunnei. Folia elliptica vel obovato-elliptica, rarius late ovata, apice late attenuata et plus minus obtusa, basi late attenuata vel obtusa, rarius subcordata, in sicco subcoriacea vel coriacea, brunnea, supra nitidula, vel utrinque opaca, subtus paullo pallidiora, integra, margine interdum aliquot recurvata, glabra, subtus haud vel obscure glanduloso-lineata, (6–)8–14 cm longa, 4–10 cm lata, costa nervisque supra planis, subtus bene prominentibus, nervis lateralibus 6–8-paribus rectiusculis vel leviter curvatis, ante marginem obscure conjunctis, rete venarum nullo; petioli (1.5–)2–2.5 cm longi, 1.5–2 mm crassi. Paniculae amplae ex coll. spectabiles, thyrsoformes, subpyramidales, axillares et terminales, graciles, multiflorae, 10–20(–30) cm longae, ramis inferioribus usque ad 8 cm longis; rhachis ramulique florigeri laterales ubique pilis brevibus patentibus albidis obsiti; bracteolae ovato-acuminatae, ciliatae, 1 mm longae; prophylla ovata, ciliata, 1 mm longa; pedicelli sub anthesi subnulli, sub fructu usque ad 1.8 mm elongati. Flores 5-meri, albido-cremei. Calycis lobi ovati, obtusi, ciliati, ca. 1 mm longi. Corolla late campanulata, 2.5 mm longa, usque ad medium 5-loba, lobis ovato-rotundatis erosulis reflexis haud lineatis. Drupa globosa, brunnea, matura certe 3 mm diam., verticaliter glanduloso-striata, stylo paullo superata.

Distribution. New Guinea, known from the Lower Idenburg R., the Ok Tedi headwaters, and around Hollandia (Jayapura), also scattered from the W. Sepik to the Milne Bay Dist.

Ecology. A high climbing or trailing liana in mixed lowland and montane, may be rather open rain forest, along riverbank, regrowth alongside of track, evading as a low shrub into neighbouring anthropogenic grassland, 275–1645 m.

Note. Apparently related to *M. macrothyrsa* Miq. (Malay Peninsula, Sumatra, Borneo), but different by larger flowers and fruits.

NEW GUINEA. W. part: Idenburg R., Bernhard camp, Brass 13718. Hollandia (Jayapura), Polimac, Mehlbaum 2. – E. part: W. Dist., Kiunga, Ok Tedi headwaters, 855 m, NGF 42786. – W. Sepik Dist., Star Mts, Busilmin, 1500 m, LAE 66837. – Morobe Dist., Finisterre Mts, Ewok-Kikiapa road near Wantoat, NGF 11851. Sattelberg near Finschhafen, along cart road, 915 m, fl. 7 March 1936, *M. S. Clemens 1975* (L, type; B, K, S, iso); *ibid.*, 1645 m, Clemens 2295. Malolo Mission, fr. 27 Aug. 1935, Clemens 29. Mt Kaindi near Wau, 800 m, in anthropogenic grassland, Conn & Kairo 134; Mauri creek, Edie creek road, NGF 8749; Yinimba, 9 km N. of Menyamy, fr., Kairo 479. Upper Watut R., NGF 44576. Waria R. area, Mimi R., Schlechter 19478 (K). – Central Dist., Boridi, 1370 m, LAE 60119. Kokoda track below Owers Corner, UPNG 870. – Milne Bay Dist., Goropu Mts, Mt Suckling, 1400 m, Veldkamp & Stevens 5969; Mayu 2, LAE 54104.

23. *Maesa protracta* F. v. Muell.

M. protracta F. v. Muell., Not. Papuan Pl. 1 (1877) 92; C. T. White, J. Arn. Arb. 10 (1925) 258. – Type: *L. M. d'Albertis s.n.* anno 1876, New Guinea, W. Dist., Lower Fly R. area, fl. fr. (MEL, n. v.; WRS�, iso).

Maesa sp., Steen., Rheophytes (1981) 306.

Shrub or treelet 1–3 m tall, erect or bent in downstream direction; bark brown. Branchlets terete, smooth, fugaciously minutely appressed-lepidote at tips, glabrous otherwise, laxly set with flattish elliptic to elongate lenticels. Leaves lanceolate, apex gradually long-acuminate, base narrowly attenuate and decurrent to the petiole, thin-chartaceous, glabrous, slightly wavy at the margin, olivaceous-brownish when dry, dull on both faces, dark glandular lines more or less visible on both faces, 10–16 by (2–)2.5–4 cm, midrib markedly raised beneath, the lateral nerves much less so, 8(–10) pairs curved-ascending and more or less excurrent along the edge, reticulation of veins obscure; petiole 8–12(–15) mm. Racemes axillary, solitary, simple, 1.5–2.5 (rarely –7) cm, 6–8(–10)-flowered; rhachis slender, fugaciously lepidote, practically glabrous; pedicels 1–2 mm; prophylls ovate-acuminate, 1 mm. Flowers 5-merous, greenish. Calyx lobes ovate-acuminate, edge finely erose, 1 mm. Corolla urceolate, hardly 2 mm, lobed about halfway, lobes obtuse. Drupe subglobose, fleshy and white to cream when fresh, c. 3 mm diam.

Distribution. Scattered in the southeastern lowland part of New Guinea, and once found in New Britain, apparently rare.

Ecology. On riverbanks in seasonally flooded rain forest, above high water level of river, 25–100 m.

NEW GUINEA. SE. part: W. Dist., Kiunga Elevala R. near Gusure village, LAE 51913. Heva (Hepa) on Vailala R., Brass 1136 (A). – Gulf Dist., Kikori, Purari R. upstream from Pide R., LAE 66330; upstream from Wabo, Sands 1403 (K). Lohike on Vailala R., LAE 72496.

NEW BRITAIN. Hoskins, Kapiura R., about 3 km upstream from the confluence of the Aum R., LAE 75341.

24. *Maesa sayersii* Sleum., *spec. nov.*

Frutex 2 m altus, vel generaliter arbor sat gracilis 6–21 m alta, trunco 8–25 cm diam., cortice griseo-brunneo leviter longitudinaliter fisso, ramis succum lutescentem vel aurantiacum exsulantibus. Ramuli robusti, striati, in sicco rubro-brunnei, glabri, laxe usque subdense lenticellati, in partibus vetustioribus defoliatis fructiferisque 1–1.5 cm diam. cinereo-corticati et lenticelloso-tuberculati. Folia forma et ambitu variabilia, anguste usque late oblonga vel elliptica, haud raro subobovata, apice subacuminata vel attenuata, ipso apice obtusa, basi in petiolum cuneata, coriacea, opaca, in sicco supra olivacea, subtus brunnescentia, vel interdum glaucescentia, saepius subtus lineis glandulosis discoloribus plus minus elongatis percurta, glabra, (8–)10–22 (–26) cm longa, (2.5–)5–10(–14) cm lata, costa supra (sicut nervi laterales) plana, subtus valde prominente et in sicco saepius rubescente, nervis lateralibus paullo inaequalibus 6–8-paribus modice arcuatis vel subrectis, pro parte ante marginem furcatis, vel superioribus ibi curvato-conjunctis, subtus leviter elevatis, reticulatione nulla; petioli rubescentes, (2–)2.5–6(–8, –10) cm longi, 2–3 mm crassi. Racemi breviter pedunculati ec axillis foliatis vel jam defoliatis orti, simplices, singuli rarius bini, glabri, laxe usque subdense 5–10(–15)-flori; rhachis iam sub anthesi robusta, 1.5–2.5 cm longa, sub fructu crassior, in sicco insigniter rubescens vel purpurascens, usque ad 5 cm elongata; pedicelli sub anthesi subnulli, in fructu 1–2 (raro –3) mm longi; prophylla opposita, ovato-acuminata, erosula, vix 1 mm longa. Flores 5-meri, in statu nondum plane evoluto tantum cogniti, cremei. Calycis lobi ovati, obtusi, obscure lineati, ca. 1.5 mm longi. Corolla in gemma tantum visa. Drupa subglobosa rarius ellipsoidea, basi generaliter rotundata, in sicco rubescens vel purpurascens, lineata, in vivo aurantiaca, 5–8 cm longa, 4–5 mm diam.; stigma peltatum lobos calycinicos paullo superans; semen unicum, brunneum.

Distribution. Admiralty Islands (Manus I.), New Britain, New Hanover, and New Ireland.

Ecology. Understory (rarely canopy) tree in lowland and montane forest, also in secondary and occasionally in swamp forest, on clayey soil, from 30–1500 m alt.

ADMIRALTY ISLANDS. Manus I., LAE 52415, 53637, 59194, 77285.

NEW BRITAIN. Kandrian, Pirilongi, fl. buds 14 March 1965, *NGF 21982 D. Sayers* (L, type; dupl. distributed to A, BRI, CANB, K, as Laur.); *ibid.*, fr. submat., *NGF 21938 D. Sayers* (L, topotype; dupl. distributed to A, BRI, CANB, K, as Myrist.); Mt Klangal, *NGF 41260*; Mt Bango, *NGF 29449*. Hoskins, crater rim of North Son, LAE 58512. Warial, Benim village, *NGF 27391*. Talasea, Mt Talawe, *NGF 26859*; Lollo slopes, *NGF 10857*. Pomio, Mt Sule, *NGF 41940* (distributed as '14940'); Mt Lululua, LAE 58298.

NEW HANOVER. Lamet, 5 km S. of Lai Bay, LAE 65434.

NEW IRELAND. Namatanai, Danfu R. area, *NGF 46087*; Hans Meyer Ra., Sands 2329 (K).

25. *Maesa junghuhniana* Scheff.

M. junghuhniana Scheff., *Comm.* (1867) 25; *Mez, Pflanzenz.* 9 (1902) 40; *Backer & Bakh. f., Fl. Java* 2 (1965) 195. – Type: *F. W. Junghuhn s.n.*, Sumatra, Tapanuli, Batak Lands. Not in L or U.

Shrub or treelet. Branchlets slender, terete, smooth, dark brown when dry, glabrous, laxly set with flat elliptic lenticels. Leaves ovate to ovate- or oblong-lanceolate, apex shortly to elongately acuminate, tip obtuse, base obtuse to rounded, rarely subcordate, sometimes suddenly contracted to the petiole, membranaceous or thin-characeous, usually quite glabrous, sometimes with short scattered hairs beneath only, dark olivaceous-brown above, paler beneath when dry, strongly gland-lineate beneath, rather coarsely dentate-serrate mainly in the upper half, 9–16 by 4–6.5 cm, lateral nerves 5–6 pairs modestly curved-ascending, forked before the edge, flat or rarely a little impressed above as is the midrib, raised beneath, reticulation of veins rather obscure beneath; petiole slender, glabrous or puberulous, (1–)2(–3) cm. Racemes 1 or 2 per axil, simple, or rarely with one low branch, 10–15-flowered, all over puberulous; rhachis slender, brownish in fruiting time in dry specimens, 2–3(–4) cm; pedicels slender, 1.5–2 mm at anthesis, to 4 mm in fruit; prophylls ovate-subacuminate, 1 mm. Flowers 5-merous. Calyx lobes ovate-triangular, subciliate, hardly 1 mm. Corolla tubular, 1.5 mm, lobed for c. 3/4, lobes rounded, crenulate, ciliate, sparsely gland-lineate. Drupe ellipsoid-globose, puberulent, obscurely vertically gland-striate, c. 2.5 mm diam.

Distribution. Sumatra (type), E. Java, Lesser Sunda Islands (Sumbawa, Lombok, Timor), Celebes?, Moluccas (Amboina, Ceram).

Note. Not recollected in the Moluccas for more than a century. There is some doubt, if the *De Vriese* specimens – named *M. junghuhniana* by Hallier f. in 1910 – really were collected in the Moluccas, as there are at the Rijksherbarium more *M. junghuhniana* materials from the De Vriese collection which bear no indication of a locality. The names ‘Amboina’ and ‘Ceram’ on part of the whole *M. junghuhniana* collection of De Vriese might be misleading, and the whole collection might have been made on Java.

MOLUCCAS. Amboina, de Vriese s.n. – Ceram, de Vriese s.n.

26. *Maesa haplobotrys* F. v. Muell.

- M. haplobotrys* F. v. Muell., Fragm. 5 (1866) 161; Benth., Fl. Austral. 4 (1869) 273; F. v. Muell., Not. Papuan Pl. 1 (1877) 92; Bailey, Queensl. Fl. 3 (1900) 948; Mez, Pflanzenr. 9 (1902) 42. – Type: *Dallachy s.n.*, Australia, Queensland, Rockingham Bay, Mackay R. (MEL, n.v.; L, P, iso).
- M. verrucosa* Scheff., Comm. (1867) 16; Ann. Jard. Bot. Btzg 1 (1876) 32; F. v. Muell., Not. Papuan Pl. 1 (1877) 92; K. Schum., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 340; Mez, Pflanzenr. 9 (1902) 42. – Type: *A. Zippelius s.n.*, New Guinea, S. coast, fl. (L; BO, iso).
- M. laevigata* Scheff., Comm. (1867) 17; F. v. Muell., Not. Papuan Pl. 1 (1877) 93; Mez, Pflanzenr. 9 (1902) 43. – Type: *A. Zippelius s.n.*, New Guinea, S. coast, fr. (L).
- M. subsessilis* Warb., Bot. Jahrb. 13 (1891) 399. – Type: *O. Warburg 18823*, Kei Is. (B, lost).
- M. hemsheimiana* Warb., Bot. Jahrb. 13 (1891) 398; K. Schum., Notizbl. Bot. Gart. Mus. Berlin 2 (1898) 138; in K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee (1900) 492; Mez, Pflanzenr. 9 (1902) 42. – Type: *O. Warburg 21378*, New Britain, Gazelle Peninsula, Ralum (Ralum, now Kokopo), fr. (B, lost).
- M. racemosa* (K. Schum.) Mez, Pflanzenr. 9 (1902) 43. – *M. nemoralis* A. DC. var. *racemosa* K. Schum., Bot. Jahrb. 9 (1887) 213; Fl. Kaiser-Wilhelmsland (1889) 107; Warb., Bot. Jahrb.

- 13 (1891) 399; K. Schum. in K. Schum. & Lauterb., Fl. Deutsch. Schutzgeb. Südsee (1900) 492; Nachtr. (1905) 340. – Type: *Hollrung 191*, New Guinea, Morobe Dist., Finschhafen-Sattelberg area (B, lost; K, iso).
- M. polybotrya* K. Schum., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 341; C. T. White, J. Arn. Arb. 10 (1929) 257. – Type: *R. Schlechter 14608*, New Guinea, W. Sepik Dist., Torricelli Mts, 100 m, fl. April 1902 (B, lost; BM, BO, K, P, WRSL, iso).
- M. rubens* S. Moore, J. Bot. 52 (1914) 291; op. cit. 61 (1923) Suppl. 28. – Type: *H. O. Forbes 90*, New Guinea, Central Dist., Mt Sogere, fl. (BM; K, L, iso).
- M. klossii* S. Moore, Trans. Linn. Soc. Bot. 9 (1916) 102. – Type: *C. B. Kloss s.n.* anno 1912, New Guinea, S. coast, Utakwa R., canoe camp, 45 m, fl. (BM).
- M. loranthifolia* Mez, Bot. Arch. 1 (1922) 125. – Type: *R. Schlechter 19335*, New Guinea, Morobe Dist., Lower Waria R., Jaduna (Yaduna, Yatuna), fl. 30 April 1909 (B, lost; P, iso).
- M. sogerensis* S. Moore, J. Bot. 61 (1923) Suppl. 28. – Type: *H. O. Forbes 174*, New Guinea, Central Dist., Sogere, fl. (BM; K, L, iso).
- M. sp.*, Walker, For. Br. Solomon Is. (1948) 146, based on *BSIP 133* from Malaita.
- M. edulis* C. T. White, J. Arn. Arb. 31 (1950) 103. – Type: *L. J. Brass 2618*, Solomon Islands, San Cristobal, Waimamura, fl. 9 Aug. 1932 (A; L, iso).

Woody climber, or bushy erect shrub, or weak tree 4–10(–15) m tall; trunk often crooked, sometimes semiprostrate; bark gray to dark brown, smooth to pustular; wood straw. Branchlets terete, slender, tips fugaciously minutely lepidote, or glabrous, young parts laxly, older ones more densely lenticellate to verruculose. Leaves variable in shape, size and texture, oblong to broadly elliptic, sometimes lanceolately, ovately or obovately so, rarely truly obovate, apex short-acuminate, with acute (or even subcuspidate) or bluntish tip, sometimes obtuse to rounded, base cuneate to the petiole, thin-chartaceous to subcoriaceous, rarely coriaceous, dark green above, paler beneath when fresh, brown and dull when dry, gland-lines obvious, or not rarely practically invisible beneath in dry specimens, glabrous, edge entire, sometimes shallowly repand-undulate (never dentate), (5–)8–15(–18, –22) by (3–)4–6(–8, –10) cm, midrib and lateral nerves prominent beneath only, the latter 6–8(–10) pairs, modestly curved, not properly joined at the edge, reticulation of veins indistinct; petiole rather robust, 1–2.5 cm. Racemes simple in general, very rarely low- and short-branched, 1–3(–5, rarely more) from the same usually foliate axil, slender at anthesis, more robust at fruiting time, all over laxly (rarely more densely) minutely lepidote initially, early glabrescent, practically glabrous (never puberulous), 3–8(–15) cm, usually rather lax-flowered; prophylls ovate-lanceolate, 1.5–2 mm; pedicels slender in general, 0.5–1(–1.5, –2.5) mm in anthesis, elongate in fruit. Flowers 5-merous, white or cream. Calyx lobes ovate-acuminate to suborbicular, sometimes more manifestly gland-lineate and ciliolate, 1–1.5 mm. Corolla campanulate, c. 2 mm, lobed about halfway, lobes semiorbicular, obtuse, mostly distinctly gland-lineate. Drupe subovoid-globose, white or cream to pinkish, succulent and transparent, gland-lineate, 3(–4) mm diam. Seeds numerous, black.

Distribution. E. Timor, Moluccas incl. Tanimber, Kei and Aru Islands, wide spread all over New Guinea and the Solomon Islands (E. to Santa Cruz I.), also in coastal Queensland.

Ecology. As undergrowth in lowland to montane rain forest, rare in monsoon forest, also in secondary forest or regrowth, scattered in wooded lowland savannas,

sometimes in beach scrub or edge of swamp forest or mangrove, locally common, usually on well drained soil, from sea level to 1200(–1800) m.

Uses. The fruits are reported to be edible from the Solomon Islands.

Note. *Maesa haplobotrys* is conceived here in a broad sense, comprising a number of apparently ecological forms, the characters of which overlap gradually. The author has observed *M. haplobotrys* around Hollandia (Jayapura): specimens in more open vegetation on cliffs (Cape Suadja, Cape Tanahmerah) show obovate and more coriaceous leaves. *Maesa samoana* Mez, *M. tongensis* Mez, *M. carolinensis* Mez and *M. palauensis* Mez are very closely related, if not conspecific.

TIMOR. Cinatti 341, 375; Forbes 3399, 3763.

MOLUCCAS. Ceram: Rutten 1857, 1891; de Vriese & Teijsmann s.n. – Tenimber Is.: Babar, van Borssum Waalkes 3069, 3215; Jamdena, Buwalda 1148, 4118, 4398, 4475; Pleyte 74.

KEI ISLANDS. Jensen 4.

ARU ISLANDS. Buwalda 4961, 5043, 5148.

NEW GUINEA. W. part: Vogelkop Peninsula, central part of Tamrau Ra., Aiwa R., van Royen & Sleumer 7720. Oranje Mts, Hellwig Mts, von Roemer 940 (BO). Lorentz (Noord) R., Versteeg 1517 (BO). Van Rees Mts, van Gelder R., Docters van Leeuwen 9227, 9276. Van der Willigen R., Docters van Leeuwen 9695, 9696. Idenburg R., Bernhard camp, Meyer Drees 270. Cyclops Mts, path Ifar-Ormu, van Royen & Sleumer 5868. Hollandia (Jayapura) vicinity, Kostermans & Soegeng 92, 292; BW 3348 Rappard; Jautefa Bay, BW 3710 Kalkman; Cape Suadjah, van Royen & Sleumer 5628; Sabronsamon, BW 6206 Kalkman. Schouten I., Japen, Serui, Aet & Idjan (Exp. van Dijk) 183; Biak, Gibbs 6243 (BM, K). – E. part: W. Sepik Dist., Vanimo, Ossima, NGF 39249. Aitape, Selio I., NGF 40881. – Gulf Dist., Fly R., d'Albertis s.n. (MEL, cit. Muell., n.v.; fragm. WRSL). Ihu, Craven & Schodde 703. Kikori, Aird hills, NGF 7187. Junction of Kapau & Tauri R., Schodde (& Craven) 4721. – E. Sepik/Madang Dist., Schrader Mts, Kaironk valley, AK 103697 Bulmer. – E. Highlands Dist., Aiyura, NGF 4430. Purosa, Okapa area, Brass 31758. Gahavisuka Prov. Park, LAE 56647. – W. Highlands Dist., Kopiago, NGF 37285. – S. Highlands Dist., Koroba, Hedemari, UPNG 2436. – Madang Dist., Gogol R., Lauterbach 1149 (WRSL). Bogadjim-Minjem Thor, Schlechter 16089. Ramu R. towards Bismarck Mts, Lauterbach 2749 (BM, K, WRSL), Schlechter 18496 (K). Nuru R., Schlechter 13802 (WRSL). Ramu R., Schlechter 14197 (BM, BO). Saidor, Matafuna, NGF 42354. Bagabag I., NGF 43439. Karkar I., UPNG 4387. Long I., NGF 48540, 48554. – Morobe Dist., Markham R. valley, Uni R., Brass 32580. Sattelberg, Clemens 656; Hellwig 394 (BO, K); Nyman 653 (WRSL); Warburg 21374 (B, lost). Finschhafen, Hollrung 124 (B, lost); LAE 62206; NGF 49782; Rau 369; Warburg 21379 (BM); Heldsbach, Clemens 131. Boana, LAE 74625; NGF 14869; Bumi R., Weinland 157 (WRSL). Busu R., Hartley 11036; NGF 14354. Huon Peninsula, Kua R., Hoogland 9004. Kui, NGF 22898. Bumbu R., NGF 16697. Oomsis logging area, NGF 14707. Lae, Botanic Garden, Hartley 9650; NGF 18868. Burep R., Hartley 11858. Morobe, NGF 2942. Bulolo, NGF 17469. Upper Bulolo valley, Kaisenik, NGF 7843. Wau, Conn & Kairo 146. Wampit, Rau 426. Salamaua, NGF 3361. Aseki, Schodde (& Craven) 4759, 4824. Garaina, Korepa, Kairo 33, 34; Saru R., NGF 25757. Payawa Bay, LAE 74925. – Northern Dist., Tufi, Lake Ridubidubina, Hoogland 4440. – Central Dist., Bisiatabu, Brass 598 (A, K), 604 (A). Port Moresby, Tovobada hills, Pullen 6968; Rouna, Hartley 10713; Laloki swamp, UPNG 636. Lala R., Carr 14096. Manumu, NGF 32466. Boridi, Carr 14665, 14704, 14716, 14739, 14822, 14885. Isuarava, Carr 15500, 15872, 16077, 16078. Owen Stanley Ra., U-ume R. headwaters, Brass 1502 (A). – Milne Bay Dist., Modewa Bay, Gara, Brass 28897. Menapi, Brass 22060. Dabora, Brass 21866. Baniara, Saunders 128.

Medino, Hoogland 4734. Mt Simpson Ra., Mt Wadimana, Schodde 5510. Goodenough I., Brass 25030. Kitava I., NGF 25313. Mt Suckling, Mayu I., LAE 56030.

ADMIRALTY ISLANDS. Manus I., Lae 77491.

LOUISIADE ARCHIPELAGO. Misima I., Brass 27588; LAE 52688. Rossel I., Brass 28299, 28558; LAE 74563. Sudest (Tagula) I., Brass 27999, 28204; LAE 74551.

NEW BRITAIN. Kandrian, NGF 23927; Mt Klangal, NGF 41275. Gasmata, NGF 24141. Mt Bango, NGF 29433. Mt Talawe, NGF 26841, 30516. Talasea, Willaumez Peninsula, LAE 66530; NGF 41379; Mt Tangis, NGF 26894. Matong, Panoff & Panoff 419. Gazelle Peninsula, Raluana, Dahl s.n. (B, lost); South Daughter Volcano, van Royen 6632.

NEW IRELAND. Schleinitz Ra., LAE 65587. Kavien, Karu, NGF 40109.

SOLOMON ISLANDS. Bougainville, Craven (& Schodde) 25, 126, 498; Kajewski 1812; NGF 13581, 16380, 30575; Schodde (& Craven) 3670; Waterhouse 170-B, 651-B. Shortland Is., BSIP 5768, 5863, 13096, 13199, 13221; Fauro I., BSIP 4136, 5733, 13925, 13970. Treasury Is., BSIP 14049, 14157, 14228, 14292. Choiseul, BSIP 17401, 18600, 18650, 18796, 18870. Vella Lavela, BSIP 11161. Kolombangara, BSIP 1404, 7615, 8677, 8905, 9598, 11431, 11571, 11617. Baga I., BSIP 2832. Ranongga, BSIP 14355, 14500, 15655. Gizo I., BSIP 5590, 15833. Rendova I., BSIP 1852. New Georgia I., BSIP 5978, 6097, 6192, Waterhouse 40, 137A. Tetepari I., BSIP 16125. Vangunu I., BSIP 877, 938. Santa Isabel, BSIP 2418, 6836, 7237, 8341; RSS 2662. Big Nggela, BSIP 15115, 15262. Small Nggela, BSIP 15469. Malaita, BSIP 133, 3467, 3516, 10217, 10303, 10542, 10602, 10686, 10784, 13481, 13611, 13684; Kajewski 2324; Small Malaita, BSIP 16277, 16325, 16424, 17278. Guadalcanal, BSIP 702, 3377, 4646, 9094, 9278, 10000, 10029, 12105, 12201, 12320, 12431; Kajewski 2395, 2473, 2521; RSS 6043; Savo, BSIP 12968. Toborrio, BSIP 13047. San Cristobal, BSIP 10872, 10947, 12574, 12745, 12841; Comins 91 (K), RSS 6348; Ulawa I., BSIP 4900. Santa Ana I., BSIP 17928. Malaupaina I., BSIP 17995. Rennell I., BSIP 14920. Santa Cruz Is., Santa Cruz, BSIP 16650, 16739, 17085, 17636, 17773, 19460; Vanikoro I., BSIP 1615, 7041; Reef Is., BSIP 6509.

AUSTRALIA. Queensland, Cook, Mossman Beach, L.S. Smith 4645.

Cult. Hort. Bot. Bogor. nr. VIII. B. 85a (dead in 1959).

LIST OF MAESA COLLECTIONS NOT SPECIFICALLY NAMED

From the Moluccas and New Guinea

MOLUCCAS. Buru, Nooteboom 5336 (monstros.); Toxopeus 279. – Ceram, Kornassi (Exp. Rutten) 1054.

NEW GUINEA. W. part: P. Gebeh, Teijsmann s.n. (BO 38487/88), published by Scheffer (Nat. Tijd. Ned. Ind. 32, 1872, 420) as *M. laevigata* Scheff., but entirely different by its paniced inflorescence. Rouffaer R., Docters van Leeuwen 10331. Wissel Lakes, Enarotali, Eyma 5081. Bernhard camp, Idenburg R., Brass 12196, 12312, 13603. – E. part: W. Sepik Dist., Telefomin, Silinmogu, LAE 59412. – Gulf Dist., Mt Bosavi, Jacobs 8892. – Morobe Dist., Mt Kumba, S. of Wau, Fallen 572. – Northern Dist., Ioma, NGF 29958. – Milne Bay Dist., Cape Vogel Peninsula, Brass 21847; Kairo 107. Raba Raba, Mayu 2; LAE 54366; Agaun, LAE 58094; Agaun-Bonenu, Pullen 7940. Kiriwina I., UPNG 994. Goodenough I., Brass 24413, 25113. Normanby I., Brass 25652. Fergusson I., Brass 27115.

EXCLUDED

Maesa camptobotrys K. Schum., Nachtr. Fl. Deutsch. Schutzgeb. Südsee (1905) 341.
– Type: R. Schlechter 14356, New Guinea, E. Sepik Dist., Torricelli Mts, 1000 m, male fl. April 1902 (B, lost; K, WRSL, iso).

To be excluded from *Maesa* for the following reasons:

1. The lateral nerves come straight from the midrib, meanwhile in true *Maesa* sp. they are manifestly decurrent on the midrib.
2. Nervation very distinctly camptodromous, not found in such a pronounced way in *Maesa* sp.

The species in question possibly belongs to *Discocalyx*, to be decided on in a later paper.

Maesa cotinoides S. Moore, Trans. Linn. Soc. Bot. II, 9 (1916) 103 = *Embelia cotinoides* (S. Moore) Merr., J. Arn. Arb. 35 (1954) 149.